

67,007-005
R-4269**REMARKS**

In the Final Office Action mailed on February 2, 2004, the Examiner reviewed claims 1-10 and 21-30. The Examiner rejected each of these claims. Specifically, claims 21-23 and 30 were rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. Claims 23-25 and 27-28 were rejected under 35 U.S.C. §112, second paragraph, as indefinite. Further, claims 1, 3 and 5 were rejected under 35 U.S.C. §102(b). Claims 1-10 and 24-30 were rejected under 35 U.S.C. §103(a) as obvious. Applicant disagrees with the basis for this rejection and requests allowance of its pending claims.

Claim Rejections - 35 U.S.C. §112

The Examiner rejected claims 21-23 and 30 under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. As to claim 21, the Examiner contends that there is no support for the limitation that two beams form a bend arguing that Figure 3 shows only one beam making each bend. Applicant draws the Examiner's attention to page 5 of the specification which describes two beams, laser beam 48 on first locality 56 and laser beam 52 on second locality 58. [Specification, page 5]. The specification further indicates that laser beam 48 and laser beam 52 may arise from the same source. [Specification, page 5]. Hence, although both beam may arise from the same source, they are, in fact, described in the specification and shown in Figure 1B as well as Figure 3, as two separate beams focused at two different locations. As shown in Figure 3, each beam 48, 52 plays a part in forming a portion of the bend shown in Figure 3. Therefore, this rejection has been overcome as to claim 21.

67,007-005
R-4269

The Examiner further rejected claims 23 and 30 pursuant to 35 U.S.C. §112, first paragraph. With respect to this rejection, Applicant notes that the specification does, in fact, enable a person skilled in the art to perform the steps set forth in these claims. Specifically, the specification states that:

First locality 56 is also displaced axially at regular intervals, along the Y-axis from second locality 58. The process is repeated down the length of optical fiber 24 to form a grating.

[Specification, page 6]. Accordingly, this rejection has been overcome.

The Examiner further rejected claims 23-25 and 27-28 pursuant to 35 U.S.C. §112, second paragraph, for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. The Examiner contends that claim 23 is not understood because there is "only one first locality and one second locality: they can only have one interval, and not 'intervals'." [Final Office Action (2/02/04), page 3]. The Examiner appears to contend that there may be only one first locality and only one second locality with only one interval between them. However, the claims make clear that the first locality is relative to the second locality. When understood in this context, it is clear that the first locality is in reference to the second locality and, in this event, the pattern is repeated, and another first locality is located which is displaced circumferentially and axially along the optical fiber. This repetition of steps A and B results in a number of intervals.

The Examiner further rejected claims 24-25 and 27-28 arguing that there is a confusing antecedent basis for "deforming." Applicant disagrees with this rejection. As noted by claim 4, the optical fiber may deform about the first locality and the second locality. As noted by claim 24, this may result in a change in index of refraction of the

67,007-005
R-4269

optical fiber and, as noted by claim 25, may result in the forming of a bend in the fiber. Each of these dependent claims provide further definition to the meaning of "deformed," a term which can encompass the foregoing limitations. Applicant is, perhaps, confused by the Examiner's concerns with respect to their relationship to the rejection under 35 U.S.C. §112, second paragraph, and requests further clarification.

Claim Rejections - 35 U.S.C. §102

The Examiner rejected claims 1, 3 and 5 under 35 U.S.C. §102(b) as being anticipated by *Byron*, 5,694,502. The Examiner argues that the first locality corresponds to the left-most portion exposed to and altered by beam 11 while the second locality is argued to be shown by the portion exposed to beam 14. At the same time, the Examiner notes that "*Byron* doesn't explicitly teach the two localities." [Final Office Action (2/02/04), page 4]. In so doing, the Examiner thereby acknowledges that all of the limitations of claim 1 are not shown by *Byron*. Indeed, beam 14 of *Byron* shines on a locality upon which beam 11 shines. There is no displacement of the second locality from the first locality along the axis of the optical fiber as required by claim 1 because light 11 is shined along the axis of the fiber and beam 14 is shined along a portion of this locality. Certainly, there is a distinction between *Byron*, which shows shining beam 11 across a large region and focusing beam 14 on a portion of that region, and the present invention as described by claim 1, which requires the two locations to be distinct both axially and circumferentially. For this reason, claim 1 and its dependents, claims 2-10 and 21-25 to be in condition for allowance.

67,007-005
R-4269**Claim Rejections - 35 U.S.C. §103**

The Examiner further rejected claims 1, 3, 5 and 23 under 35 U.S.C. §103(a) as being unpatentable over *Byron*, 5,694,502. The Examiner readily acknowledges that all the limitations are not shown by a single reference. With respect to the foregoing claims, however, the Examiner does not make an effort to identify any other reference that shows the limitations of claims 1, 3, 5 and 23. For this reason alone, the rejection is improper.

The Examiner rejected claim 4 under 35 U.S.C. §103(a) as being unpatentable over *Byron* as applied to claim 3 above, and further in view of *Bernstein, et al.*. The Examiner acknowledges that *Byron* does not teach deforming of the fiber. Instead, the Examiner relies upon *Bernstein, et al.* to meet this limitation. Essentially, the Examiner appears to contend that motivation exists to combine *Byron* with *Bernstein, et al.* because fibers have protective layers that may require removal prior to forming a grating. Accordingly, the Examiner contends that it would have been obvious to add a protective coating on the *Byron* fiber, and it would be further obvious to add this layer as a precursor step to writing the grating. Claim 4 specifically requires, "deforming the optical fiber about the first locality and the second locality to form the grating on the optical fiber." There is no teaching in either reference that this step is performed. Indeed, *Bernstein, et al.* discloses that the laser beam energy must be "low enough to maintain the fused silica material of the core 22 and the cladding 24 undamaged." [*Bernstein, et al., et al.*, column 4, ll. 5-7]. Hence, *Bernstein, et al.* teaches away from using its technique to form a grating. Accordingly, the references fail to teach all of the limitations of claim 4. For this reason, claim 4 is in condition for allowance.

67,007-005
R-4269

The Examiner further rejected claims 1-3 under 35 U.S.C. §103(a) as being unpatentable over *Kim*, 6,501,881. The Examiner readily acknowledges that "there is no disclosure of two different localities along the axis." [Final Office Action (2/02/04), p.6]. Instead, the Examiner merely infers this limitation. There is no teaching of this limitation in the prior art nor is there motivation in *Kim* to seek out this modification. For this reason, claims 1-3 are allowable over *Kim*.

The Examiner rejected claims 1-2 and 6-10 under 35 U.S.C. §103(a) as being unpatentable over *Prast* 5,176,731 and *Nakai* 5,996,375. As noted in Applicant's previous response, neither *Prast, et al.* nor *Nakai, et al.* alone or in combination teach all of the limitations of claim 1. There is no showing of two localities axially and circumferentially displaced from each other. Moreover, *Prast, et al.* teaches a technique for performing measurements on an optical fiber using a radiation beam. There is nothing within *Prast, et al.* that indicates such a technique should be or is capable of being combined with *Nakai, et al.*. As noted by the MPEP:

The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggest the desirability of the combination.

MPEP 2143.01. There is nothing within either reference to suggest the desirability of the combination. Therefore, the combination is improper and the claims allowable over these references. Therefore, claims 1-2 and 6-10 are in condition for allowance.

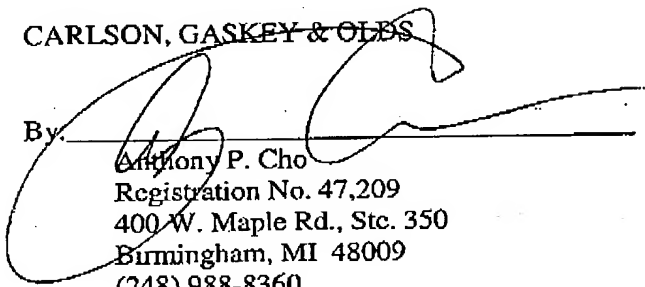
67,007-005
R-4269

For the foregoing reasons, Applicant requests allowance of claims 1-10 and 21-30.

Respectfully submitted,

CARLSON, GASKEY & OLDS

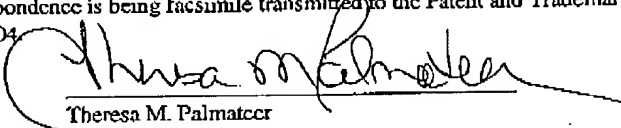
By.


Anthony P. Cho
Registration No. 47,209
400 W. Maple Rd., Ste. 350
Birmingham, MI 48009
(248) 988-8360

Dated: April 2, 2004

CERTIFICATE OF FACSIMILE

I hereby certify that this correspondence is being facsimile transmitted to the Patent and Trademark Office (Fax No. (703) 872-9306) on April 2, 2004.


Theresa M. Palmatier

N:\Clients\UNITED TECHNOLOGIES\IP00005\patent\Response 4-2-04.doc